and Eugenics, and a Bureau of Growth and Nutrition. C. F. ARDEN-CLOSE.

PSYCHOLOGY

Cattell, Raymond B. *An Introduction to Personality Study*. London, 1950. Hutchinson's University Library. Pp. 235. Price 7s. 6d.

THIS new small book on personality, compressing into some 230 pages much of the material which went into the same author's larger textbook on *Personality: A Systematic Theoretical and Factual Study*, shares most of the excellencies and some of the defects of the larger book. The chapter headings are fairly conventional, but the order of treatment is distinctly unusual. The book begins with the problems of personality study, including a brief discussion of methods, definitions, and so forth; it continues with a chapter on inherited constitutional influences in personality. The next three chapters are concerned with psychodynamics, to be followed by a chapter on the abnormal personality. Chapters 7 and 8 perhaps constitute the core of the book, dealing as they do with the description and measurement of personality in a fashion similar to that used in Cattell's book of that name. Then follows a chapter on psychosomatics, including, which is somewhat unusual but perfectly justifiable, a discussion of the relation between personality and body build. A brief discussion of personality and the cultural pattern, and of the life course of personality closes the book.

The writer himself draws attention to three innovations which mark this book out from the main run of personality textbooks. In the first place he has attempted to present in its simplified spatial, geometrical form, the essentials of the factor analytic approach to describing and measuring personality. As he points out, " Many psychologists, accepting a traditional estimate of the difficulties of this technique and perhaps unaware of the advances and simplifications made in this generation, avoid the whole subject and try, with some superficial and misleading talk about 'types,' to 'get by' on the subject of personality description." In his insistence on presenting the methodology of factor analysis, even in an introductory book, Cattell is indubitably right. If we want to get away from the purely semantic, intuitive, and popular method of treating this subject and to adopt a scientific point of view, we cannot neglect a discussion of those methods which alone can give us meaningful answers to our problems. As Cattell points out, if simple algebra or geometry is too difficult for the student he certainly ought not to be studying so complex a subject as psychology.

Cattell's second innovation is a substitution of the term " erg " for the concept of " drive," " need " or " instinct." Cattell believes this to be a more precise concept, but the reviewer is doubtful whether neologisms of this type are really helpful to the beginning student, who, after all, is not burdened so much by connotations given to older terms like " instinct " by past psychological writers whose work he would not be expected to be familiar with in any case.

Cattell's third innovation is the introduction of a system of what he calls " adaptation-adjustment analysis," which integrates psycho-analytic and other clinical and experimental studies of dynamic processes. He claims that while " our observations on the development of dynamic structures in personality necessarily remain to-day still largely at a clinical level, they are certain enough to permit us to go forward to a systematization of this kind." The reviewer does not feel that this optimism is justified. These unverified, and possibly unverifiable, clinical observations may have a place in the psychiatrist's consulting-room; they should, however, be sharply distinguished from operational concepts firmly established and isolated by means of proper scientific methodology. It is to be regretted that Cattell would appear to give them equal status after having insisted throughout the rest of the book on the essential nature of proper validation and verification of theoretical concepts and constructs.

The book would certainly be considered difficult by most students who are not

already familiar with the subject. It is probably made more difficult than it need be by the use of certain terms and concepts (" factor loading," " correlation coefficient ") before they are explained on a later page. Nor is understanding made easier by the author's frequent use of neologisms, to one of which attention has already been drawn. These may have their place in an advanced discussion for students already familiar with the field ; their place in an introduction to personality is more debatable. Also, the tendency of the writer to present concepts in number sequences, " crossroads 1-6," for instance, or " personality factors a, b, c," etc., makes the text somewhat more difficult to read than it might otherwise be. These defects ought, perhaps, to be blamed more on the state of the subject on which Cattell is writing than on the author himself. The task of compressing the enormous theoretical and experimental material which is relevant, and which seems to yield to no easy systematization or integration into 230 small pages, is a manifestly impossible one, particularly when the reader cannot be assumed to have any previous knowledge of scientific method, of mathematics, or of statistics. Cattell's is a brave effort, but the reviewer fears that only a very intelligent and persevering student would be able to extract from this book all that Cattell has tried to put in.

H. J. EYSENCK.

Piaget, Jean. *The Psychology of Intelligence.* London, 1950. Routledge and Kegan Paul Ltd. Pp. viii + 182. Price 15s.

THIS volume is a translation of a series of lectures given by Professor Piaget of Geneva at the Collège de France in 1942. He starts by systematically classifying the different accounts of intelligence that have been or might be given. After briefly criticizing each of the main alternatives he develops his own conception. He regards intelligent activity as an essential form of " biological adaptation " ; and his theory of intelligence thus comes close to that of Herbert Spencer.

To begin with, he says, we must distinguish in all forms of conscious adaptation two main elements—feeling and knowing, or, in more technical language, affection and cognition. The affective activities (which for him include the conative) have a threefold function : to dictate the goals or ends of human behaviour, to attribute value to these ends, and to supply the energy needed for action. The cognitive activities provide the means to those ends in the form of " structural techniques." It follows that " every action must involve both an energetic or affective aspect and a structural or cognitive aspect." He believes that the current uses of the term " intelligence " may be conveniently summed up if we treat it as " a generic term to indicate the superior forms of organization or equilibrium, namely, those which are achieved by cognitive structurings." We can thus say that " behaviour becomes more ' intelligent ' as the lines of interaction between the subject and the objects in his environment become progressively more complex." Thus considered, intelligence is seen to play an essential part in *all* acts of conscious adaptation. It can no longer be regarded as a separate or a higher intellectual faculty. And this in turn " implies a complete continuity from the lowest types of cognitive and motor adaptation and the highest forms of thought." Here again, therefore, we reach a view which is in close agreement with that put forward by Spencer and his followers.

Having outlined his theory in broad terms, Professor Piaget then goes on to interpret the commonly recognized types of cognitive process—perception, sensori-motor functions, habit, and the growth of thought. These he regards not as dependent on separate faculties but as developing out of the earlier manifestations of intelligence. Both during the evolution of the race and during the growth of the individual, intelligence becomes differentiated into more and more specialized forms. As a result, so he maintains, mental life displays a " hierarchy of operations." Two main stages may first be distinguished—the " pre-symbolic " and the " symbolic." The " pre-symbolic " stages include simple